

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A speaker apparatus comprising:

at least one speaker;

5 a processor coupled to the at least one speaker, the processor comprising:

a first component configured to receive a sound signal from an external source; and

a second component configured to generate a video signal based on the sound signal; and

10 a video output port coupled to the second component.

2. The apparatus of Claim 1, wherein the external source is a receiver and the sound signal comprises a portion received by a microphone.

3. The apparatus of Claim 2, wherein the processor further comprises:

15 a third component configured to process a portion of the sound signal based on a plurality of parameters; and

a fourth component configured to output the processed signal to the at least one speaker.

4. The apparatus of Claim 1, wherein the external source is a microphone.

5. The apparatus of Claim 4, wherein the processor further comprises:

20 a third component configured to receive a second sound signal from a second external source;

a fourth component configured to process the second sound signal based on a plurality of parameters; and



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a fifth component configured to output the processed second sound signal to the at least one speaker.

6. The apparatus of Claim 5, further comprising a control device configured to allow user manipulation of the parameters.

5 7. The apparatus of Claim 5, further comprising a wireless communication component coupled to the processor, wherein the control device is a wireless remote control.

8. The apparatus of Claim 7, wherein the wireless communication component is an optical sensor.

9. The apparatus of Claim 5, wherein the processor further comprises:
10 a sixth component configured to generate a test sound signal.

10. The apparatus of Claim 9, further comprising a port configured to output the test sound signal.

11. The apparatus of Claim 5, wherein the processor further comprises:
15 a sixth component configured to receive changes to one or more of the first thru fifth components.

12. The apparatus of Claim 1, further comprising a housing configured to include the at least one speaker and the processor.

13. The apparatus of Claim 12, further comprising volume controls mounted to the housing and configured to control output of the at least one speaker.

20 14. The apparatus of Claim 12, further comprising an indicator light coupled to the processor.



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15. The apparatus of Claim 1, further comprising:

at least one amplifier coupled to the at least one speaker.

16. A sound system including a receiver, the sound system comprising:

a display;

5 a microphone;

a control device; and

a speaker apparatus coupled to the display, the microphone, the control device,
and the receiver, the speaker apparatus comprising:

at least one speaker; and

10 a processor coupled to the at least one speaker, the processor comprising:

a first component configured to receive a first sound signal from
the receiver and a second sound signal received by the
microphone;

15 a second component configured to process the first sound signal
based on a plurality of parameters and output the processed
sound signal to the at least one speaker; and

a third component configured to generate a video signal based on
the second sound signal;

20 a fourth component configured to send the generated video signal
to the display,

wherein the display presents the received video signal.

17. The system of Claim 16, wherein the processor further comprises a fifth component
configured to generate and send a test sound signal to the receiver.



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18. The system of Claim 17, wherein the receiver generates a sound signal based on the received test sound signal and sends the generated sound signal to the speaker apparatus for output to the at least one speaker.

19. The system of Claim 18, wherein the generated a video signal includes a graphical user interface, the graphical user interface includes a frequency response graph of the sound signal received by the microphone.

20. The system of Claim 19, wherein the graphical user interface further includes an eight band equalizer.

21. The system of Claim 20, wherein the graphical user interface further includes a parameters section configured to allow a user to set at least a portion of the plurality of parameters using the control device.

22. The system of Claim 21, wherein the portion of the plurality of parameters includes one or more of low pass crossover frequency, low pass crossover slope, subsonic frequency, subsonic slope, phase, polarity, volume, contour frequency, contour level, or a theatrical/musical performance parameter.

23. The system of Claim 16, wherein the speaker apparatus further comprises a housing configured to include the at least one speaker and the processor.

24. The system of Claim 23, wherein the speaker apparatus further comprises a port mounted on the housing, the port configured to receive the generated video signal from the processor.

25. The system of Claim 23, wherein the speaker apparatus further comprises a port configured to receive sound signals from the processor.



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26. The system of Claim 23, wherein the speaker apparatus further comprises volume controls mounted to the housing and configured to control output of at least one speaker.

27. The system of Claim 16, wherein the speaker apparatus further comprises a wireless communication component coupled to the processor, and wherein the control device is a
5 wireless remote control.

28. The system of Claim 27, wherein the wireless communication component is an optical sensor.

29. The system of Claim 27, wherein the wireless remote control includes one or more preset buttons configured to send a preset command signal to the processor, wherein the
10 processor processes sound signals according to parameters set in accordance with the received preset command signal.

30. A speaker apparatus comprising:

- a first means for receiving a sound signal from an external source; and
- a second means for generating a video signal based on the received sound signal.

15 31. The apparatus of Claim 30, wherein the external source is a microphone.

32. The apparatus of Claim 30, wherein the external source is a receiver and the sound signal comprises a portion received by a microphone coupled to the receiver.

33. The apparatus of Claim 30, further comprising:

- a third means for receiving a sound signal from an external source;
- 20 a fourth means for processing the sound signal from the external source based on a plurality of parameters.



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34. The apparatus of Claim 33, further comprising a fifth means for outputting the processed sound signal to at least one speaker.

35. The apparatus of Claim 33, further comprising a fifth means for manipulating the plurality of parameters.

5 36. The apparatus of Claim 35, further comprising a sixth means for converting wireless communication signal for use by the processor.

37. The apparatus of Claim 33, further comprising a fifth means for generating a test sound signal.

38. The apparatus of Claim 33, further comprising a fifth means for receiving and
10 implementing changes to one or more of the second thru fourth means.

39. A method comprising:

receiving a first sound signal at a speaker unit from a source external to the
speaker unit;

processing the first sound signal based on a plurality of parameters;

15 outputting the processed first sound signal to at least one speaker of the speaker
unit;

receiving a second sound signal generated by a microphone at the speaker unit;

generating a video signal at the speaker unit based on the second sound signal;

and

20 sending the generated video signal to a display coupled to the speaker unit.

40. The method of Claim 39, further comprising:

generating a test sound signal at the speaker unit; and



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sending the generated test sound signal to a sound system coupled to the speaker unit.

41. The method of Claim 40, further comprising:

generating an output test sound signal at the sound system based on the received
5 test sound signal; and

sending the generated output test sound signal to one or more speakers coupled to the sound system and to the at least one speaker of the speaker unit.

42. The method of Claim 41, further comprising:

presenting the generated video signal on the display, wherein the presented video
10 signal includes a graphical user interface, the graphical user interface includes a frequency response graph of the sound signal received by the microphone.

43. The method of Claim 42, wherein the graphical user interface further includes an eight band equalizer.

44. The method of Claim 43, wherein the graphical user interface further includes a
15 parameters section configured to allow a user to set at least a portion of the plurality of parameters using the control device.

45. The method of Claim 44, wherein the portion of the plurality of parameters includes one or more of low pass crossover frequency, low pass crossover slope, subsonic frequency, subsonic slope, phase, polarity, volume, contour frequency, contour level, or a
20 theatrical/musical performance parameter.

46. A speaker apparatus comprising:

first and second speakers; and

a processor coupled to the first and second speakers, the processor comprising:




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a first component configured to receive a first sound signal from an external source and a second sound signal from a microphone;
a second component configured to process the first sound signal based on a plurality of parameters; and
5 a third component configured to generate a video signal based on the second sound signal.

47 The apparatus of Claim 46, wherein the first speaker is an 18 inch subwoofer and the second speaker is a 12 inch subwoofer.

48 The apparatus of Claim 47, wherein the received first sound signal is between 0 Hz
10 and 130 Hz and the second component automatically selects a first and second range of frequencies of the first sound signal and sends the first range of frequencies of the sound signal to the 18 inch subwoofer and sends the second range of frequencies of the first sound signal to the 12 inch subwoofer.

49. A method performed in a speaker apparatus, the method comprising:
15 receiving a first sound signal from an external source 0 Hz and 130 Hz and a second sound signal from a microphone, the first sound signal being between;
processing the first sound signal into a first and second range of frequencies based on a plurality of parameters;
sending the first range of frequencies of the sound signal to a first speaker;
20 sending the second range of frequencies of the first sound signal to a second speaker; and
generating a video signal based on the second sound signal,

50. The method of Claim 49, wherein the first speaker is an 18 inch subwoofer and the second speaker is a 12 inch subwoofer.



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51. A speaker apparatus comprising:

at least one speaker;

a processor having a memory configured to store program instructions to receive a
sound signal from an external source, generate a video signal based on the
sound signal, and output the generated video signal.

52. The apparatus of Claim 51, wherein the external source is a receiver and the sound
signal comprises a portion received by a microphone.

53. The apparatus of Claim 52, wherein the program instructions further process a
portion of the sound signal based on a plurality of parameters, and output the processed
signal to the at least one speaker.

54. The apparatus of Claim 51, wherein the external source is a microphone.

55. The apparatus of Claim 54, wherein the program instructions further receive a
second sound signal from a second external source, process the second sound signal based on
a plurality of parameters, and output the processed second sound signal to the at least one
speaker.

56. The apparatus of Claim 55, further comprising a control device configured to allow
user manipulation of the parameters.

57. The apparatus of Claim 55, further comprising a wireless communication
component coupled to the processor, wherein the control device is a wireless remote control.

58. The apparatus of Claim 57, wherein the wireless communication component is an
optical sensor.



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59. The apparatus of Claim 55, wherein the program instructions further generate a test sound signal.

60. The apparatus of Claim 59, further comprising a port configured to output the test sound signal.

5 61. The apparatus of Claim 55, wherein the program instructions further receive program instruction changes and execute the received changes.

62. The apparatus of Claim 51, further comprising a housing configured to include the at least one speaker and the processor.

63. The apparatus of Claim 62, further comprising volume controls mounted to the housing and configured to control output of the at least one speaker.

64. The apparatus of Claim 62, further comprising an indicator light coupled to the processor.

65. The apparatus of Claim 51, further comprising:
at least one amplifier coupled to the at least one speaker.

15 66. A speaker system comprising:
a speaker;
a processor coupled to the speaker;
an accelerometer system comprising:
an accelerometer being in mechanical communication with the speaker,
20 the accelerometer being configured to generate an analog motion
signal based on motion of the speaker; and



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an analog to digital converter coupled to the accelerometer and the processor, the analog to digital converter being configured to convert the analog motion signal to digital.

67. The system of Claim 66, wherein the processor comprises:

- 5 a first component configured to receive a sound signal from an external source
 and sending the received sound signal to the speaker;
 a second component configured to receive the digital motion signal;
 a third component configured to compare the received sound signal to the
 received digital motion signal;
10 a fourth component configured to determine a sound processing value based on
 the comparison; and
 a fifth component configured to adjust a received sound signal based on the
 determined sound processing value.

68. The system of Claim 67, wherein the processor further comprises:

- 15 a sixth component configured to disable the third and fourth component if the
 received digital motion signal is below a threshold value.

69. A method comprising:

- receiving a sound signal from an external source;
 sending the received sound signal to a speaker;
20 generating an analog motion signal;
 converting the analog motion signal to digital;
 receiving the digital motion signal;
 comparing the received sound signal to the received digital motion signal;
 determining a sound processing value based on the comparison; and



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adjusting a received sound signal based on the determined sound processing value.

70. The method of Claim 69, wherein comparing includes comparing the received sound signal to the received digital motion signal if the received digital motion signal is
5 above a threshold value.

71. A system comprising:

a means for receiving a sound signal from an external source;

a means for sending the received sound signal to a speaker;

a means for generating an analog motion signal;

10 a means for converting the analog motion signal to digital;

a means for receiving the digital motion signal;

a means for comparing the received sound signal to the received digital motion signal;

a means for determining a sound processing value based on the comparison; and

15 a means for adjusting a received sound signal based on the determined sound processing value.

72. The method of Claim 71, wherein the means for comparing compares the received sound signal to the received digital motion signal if the received digital motion signal is above a threshold value.



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